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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,338	10/12/2000	Oliver Opitz	FA/201	2659

7590 01/21/2004  
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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/600,338	<b>Applicant(s)</b> OPITZ, OLIVER
	<b>Examiner</b> Jennifer A Boyd	<b>Art Unit</b> 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 4, 6 - 22, 24 - 27, 29, 31 - 34 and 36 - 37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 4, 6 - 22, 24 - 27, 29, 31 - 34 and 36 - 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
1) ☐ Certified copies of the priority documents have been received.  
2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Applicant's Amendment and Accompanying Remarks, filed October 23, 2003, have been entered and have been carefully considered. The Examiner acknowledges the submission of a new oath or declaration in compliance with 37 CFR 1.67(a). Claims 1, 9 and 27 have been amended, claims 8 and 21 - 23 have been cancelled and claims 1 - 7, 9 - 20, 24 - 29 and 31 - 37 are pending. However, after an updated search, additional prior art was discovered that appears to render the claims unpatentable. The reasons are discussed below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1 - 4, 6 - 22, 24 - 27, 29, 31 - 34 and 36 - 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton et al. (US 5,244,716) in view of Caldwell (US 5,004,643) and Gore (US 4,187,390).

Thornton et al. is directed to stretchable fabric and articles such as stockings, gloves and hats (column 1, lines 5 - 23).

As to claims 1, 3, 10 - 11, 27, 29 and 31 - 34, Thornton teaches a composite material comprising a first film layer resistant to penetration by liquid water and permeable to water vapor, equated to Applicant's "functional layer", adhered at discrete locations, or also known as dot form, to a second layer of water vapor permeable extensible sheet material, equated to

Art Unit: 1771

Applicant's "textile sheet material" (Abstract). In one embodiment, the two layer composite as described above is secured to an outer layer such as a glove of leather or imitation leather, equated Applicant's "leather layer" (column 7, lines 56 – 60). The use of an adhesive between the polymeric, "functional layer", and outer fabric layer, or "leather layer", is acceptable (column 7, lines 60 – 65). The adhesive can be in powder form (column 14, lines 19 – 25).

As to claims 2 and 26, Thornton implies that the inner surface of the leather layer is the flesh side of the leather. Thornton states that the laminate can be used for a glove (column 7, lines 56 – 60). If used for a glove, the flesh side would be adhered to the "functional layer" and the outer surface would be the visible part of the glove.

As to claims 4, 6 - 7, and 36 – 37, Thornton teaches that the adhesive used can be a crosslinkable polyurethane adhesive in a powder form (column 14, lines 19 – 25).

As to claims 19 and 20, Thornton teaches that the second layer, or "textile sheet material", is preferably a knitted or woven structure (column 5, lines 1 – 5).

As to claims 1, 9 and 27, Thornton teaches the claimed invention above except fails to disclose that the outer layer, or Applicant's "leather layer" is openly hydrophobicized.

Caldwell is directed to silicone-polymer internally coated webs (Title). Caldwell teaches internally treating a porous web fabric with a curable liquid silicone polymer and subjecting it to localized shear forces to uniformly distribute the polymer within (Abstract). Caldwell notes that the web is preliminarily impregnated with a fluorochemical (Abstract). Caldwell teaches that a wide range of materials can be treated with the process such as wovens, non-wovens, natural and man-made leathers, foamed plastic sheets and films (column 7, lines 1 – 68). The fluorochemical

impregnation is accomplished by first saturating the web with a liquid composition which incorporates the fluorochemical, draining, compressing and drying the fabric (column 15, lines 35 – 40). Caldwell teaches that the webs procuded by this process are breathable, waterproof and flexible (Abstract).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the leather outer layer of Thornton by providing it with a water repellent internal coating of Caldwell with the motivation of having a porous material that will repel water while allowing the material to breathe.

As to claims 1 and 27, Thornton in view of Caldwell teaches the claimed invention above except fails to disclose that the functional layer is expanded PTFE.

Gore teaches a tetrafluoroethylene polymer in a porous form which can be shaped into a film (Abstract). The polytetrafluoroethylene film can be laminated or bonded with other materials to create composite structures (column 1, lines 35 – 45). The material has high strength and high porosity (Abstract). The expanded, amorphous locked polytetrafluoroethylene can be bonded to other materials much more readily than conventional polytetrafluoroethylene products (column 5, lines 48 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use expanded polytetrafluoroethylene as suggested by Gore as the functional layer of the composite of Thornton in view of Caldwell motivated by the desire to have a highly porous, strong film which bonds easily to substrates.

As to claims 1, 12, 15 – 18, 24 – 25 and 27, although Thornton in view of Caldwell and Gore does not explicitly teach the claimed water vapor transmission resistance (Ret) of less than  $600 \times 10^{-3} \text{ (m}^2\text{mbar)/W}$  and a crumple flex durability of at least 50,000 cycles as required by claims 1 and 27, the leather layer has a spray rating greater than 70% as required by claim 12, a water vapor transmission resistance (Ret) of less than  $400 \times 10^{-3} \text{ (m}^2\text{mbar)/W}$  as required by claim 15, a water vapor transmission resistance (Ret) of less than  $300 \times 10^{-3} \text{ (m}^2\text{mbar)/W}$  as required by claim 16, the leather layer after complete immersion in deionized water for 1 hour increases by less than 50% in weight as required by claim 17 and by less than 10% in weight as required by claim 18 compared with a dry laminate, the laminate is waterproof at a water pressure of greater than 0.13 bar as required by claim 24 and the leather layer has an abrasion resistance of  $<3$  by the Darmstadt method as required by claim 25, it is reasonable to presume a water vapor transmission resistance (Ret) of less than  $600 \times 10^{-3} \text{ (m}^2\text{mbar)/W}$  and a crumple flex durability of at least 50,000 cycles as required by claims 1 and 27, the leather layer has a spray rating greater than 70% as required by claim 12, a water vapor transmission resistance (Ret) of less than  $400 \times 10^{-3} \text{ (m}^2\text{mbar)/W}$  as required by claim 15, a water vapor transmission resistance (Ret) of less than  $300 \times 10^{-3} \text{ (m}^2\text{mbar)/W}$  as required by claim 16, the leather layer after complete immersion in deionized water for 1 hour increases by less than 50% in weight as required by claim 17 and by less than 10% in weight as required by claim 18 compared with a dry laminate, the laminate is waterproof at a water pressure of greater than 0.13 bar as required by claim 24 and the leather layer has an abrasion resistance of  $<3$  by the Darmstadt method as required by claim 25 is inherent to Thornton in view of Caldwell and Gore. Support for said presumption is found in the use of like materials (i.e. composite material comprising a first film

layer resistant to penetration by liquid water and permeable to water vapor adhered at discrete locations to a second layer of water vapor permeable extensible sheet material and a leather layer) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties discussed above obviously would have been present once the Thornton in view of Caldwell and Gore product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

As to claims 13 and 14, Thornton in view of Caldwell and Gore disclose the claimed invention except for that the outer layer, or "leather layer" has a thickness between 0.8 mm and 2 mm as required by claim 13 and a thickness between 1mm and 1.5 mm as required by claim 14. It should be noted that thickness is a result effective variable; for example, as the outer layer, or "leather layer", thickness decreases, the layer becomes more pliable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create an outer layer, or "leather layer" having a thickness between 0.8 mm and 2 mm as required by claim 13 and a thickness between 1mm and 1.5 mm as required by claim 14, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the thickness of the outer layer in order to have a durable yet pliable outer layer.

4. Claims 5, 28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton et al. (US 5,244,716) in view of Caldwell (US 5,004,643) and Gore (US 4,187,390) as applied to claims 1 and 27 above, and further in view of McConnell (US 4,299,933).

Thornton et al. in view of Caldwell and Gore teaches the claimed invention above except fails to disclose the use of an adhesive that is a copolyester or a polyamide.

McConnell discloses a composition comprising a linear thermoplastic copolyester and that certain polyesters are known to be useful as adhesives for bonding fabrics and leather. McConnell further teaches that the polymers may be extrusion coated or applied from solutions to provide coatings for fabrics, metals, plastics, leather and wood (column 2, lines 1 – 8). Further, McConnell teaches that the polyesters can be used to bond fabrics at relatively low temperatures and the bonded fabrics have a good resistance to typical laundering procedures. The polymers may be used in powder form or extruded into film (a continuous form) for use in laminating or bonding substrates (column 3, lines 33 – 42) as required by claims 28 and 35. In Example 3, McConnell teaches the use of powder and dot application of the adhesive (column 5, lines 31 – 41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the laminate of Thornton et al. in view of Caldwell and Gore by using the copolyester adhesive of McConnell motivated by the expectation of increased resistance to typical laundering procedures.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1 – 7, 9 – 20, 24 – 29 and 31 – 37 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Art Unit: 1771


6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

  
Jennifer Boyd  
January 4, 2004

  
TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700